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Book Reviews

L. AUSLANDER AND R. TOLMIERI, *Abelian Harmonic Analysis, Theta Functions and Function Algebras on a Nilmanifold*, Springer, 1975, 99 pp. Even though this is a report of research by the authors, which might have been published as a research paper, a successful effort is made to motivate the material and make it accessible to the semi-specialist.

N. S. GOEL AND N. RICHTER-DYER, *Stochastic Processes in Biology*, Academic Press, 1974, 269 pp. This useful survey of the stochastic processes which are normally illustrated by biological jargon shows how far we still are from discovering the stochastic processes, if any, which are intrinsic to biology.

P. R. CHERNOFF AND J. MARSDEN, *Properties of Infinite-Dimensional Hamiltonian systems*, Springer, 1974, 160 pp. Nonlinear ordinary differential equations in infinite-dimensional Banach spaces. Not only are the analogs of finite-dimensional results derived, but new and yet-to-be-completely understood phenomena that occur in infinite dimensions are described in detail.

W. G. FARIS, *Self-Adjoint Operators*, Springer, 1975, 115 pp. A useful *precis* on the question: When does a symmetric operator in Hilbert space have a unique self-adjoint extension? Up-to-date and aware of connections with physics.

G. RINGEL, *Map Color Theorem*, Springer, 1974, 191 pp. A detailed account of the solution of the Heawood conjecture, the work of the author with J. W. T. Youngs and partly with W. Gustin. The techniques invented by these authors are presently being scanned by professional generalizers, and there is no telling how much good new mathematics will come out of it.

M. A. ARBIB AND E. G. MANES, *Arrows, Structures and Functors*, Academic Press, 1975, 185 pp. One wonders why category theory has led to such loud opposition from reactionary elements. Perhaps one reason is that its understanding requires an awareness of subtle analogies between disparate mathematical disciplines, and mathematicians seldom leave their narrow turf nowadays. The authors have done their best in presenting the theory, but one is left in want of further examples.

M. D. MESAROVIC AND Y. TAKAHARA, *General Systems Theory: Mathematical Foundations*, Academic Press, 1975, 268 pp. Systems theory is a simmering pot which promises the latest elixir of life. Like all central subjects, it cuts across party lines: automata and categories, differential equations and operator theory, algebraic geometry and invariant theory. A prudent mathematician might do well to keep an interested eye on it, lest he suddenly finds himself immersed in the Leth-al waters of obsolescence.

L. E. J. BROUWER, *Collected Works*, Vol. 1, *Philosophy and Foundations of Mathematics*, North-Holland, 1975, 628 pp. On leafing through the collected papers of great mathematicians, one notices how few of their ideas have received adequate attention. It is like entering a hothouse and being struck by the species of flowers whose existence we did not even suspect. Should be required reading by all logicians.